REMARKS

This paper is responsive to the non-final Office Action dated May 3, 2007. Claim 1 and 4 - 6 are pending in this application and have been rejected.

In the outstanding Office Action the examiner has rejected claims 1 and 4 - 6 as being unpatentable over US Patents 2,568,587 (MacGeorge), 6,154,113 (Murai) and 6,598,824 (Schmidt). This prior art rejection is respectfully traversed and reexamination is requested. The claims are amended to recite elements of the first presented preamble after "comprising".

MacGeorge '587

MacGeorge teaches a differential transformer, not a high-voltage transformer such as that used for a discharge lamp. Figure 1 of '587 shows two bobbins in which primary sides and secondary side windings are provided. These are composite coils (24) and (27). Composite coil (24) consists of windings (22) and (23). Composite coil (27) consists of windings (25) and (26). The differential transformer has only two sets of composite windings, namely, the primary side (22, 25) and secondary side (23, 26). There is no separate third winding which is a magnetic coupling adjusting winding. The winding referred to by the examiner as an adjusting winding (24, 27) is, in fact, a pair of

composite windings which are merely the primary and secondary sides wound with each other. Stated another way, there is no winding in '587 that does not include both primary and secondary side windings which would constitute the claimed magnetic coupling adjusting winding.

In addition to the failure to include the windings discussed above, the examiner correctly observes that MacGeorge does not disclose the third frame, the sandwiching, the flange between the primary side and the secondary side and the notch.

Murai '113

Murai shows a primary winding coil (2) is wound on the primary bobbin (3) and the secondary coil (4) is wound on the ferrite cores (6), each fitted to the secondary bobbin (5). There is only one secondary bobbin (5) on which the secondary coil (4) is wound (column 4, lines 13 - 18). The inner surface of the primary bobbin (3) is provided with ribs (7) (column 4, lines 33 - 35) that, as shown in Figure 3, extend inward towards the secondary bobbin (5). The secondary coil (4) is wound around the surface of the secondary bobbin (5) except for end flanges (9) (column 4, lines 65 - 67). The primary coil completely surrounds the secondary coil and the secondary coil has no flanges which separate it from anything. This is shown by the discussion of the assembly process beginning at column 5, line 26. First, the secondary coil is wound around the secondary

bobbin (5). Then, the secondary bobbin (5) is inserted into insertion portion (3d) of primary bobbin (3). The primary bobbin (3) is positioned at the center of the secondary bobbin (5). Then the primary bobbin (3) is wound, and ribs (7) provide spacing between the two bobbins.

The primary bobbin (2) includes the flanges (8) which provide end walls for winding of the primary bobbin.

The flanges (8) do not provide for separation of the two bobbins. Instead, one bobbin is wound around the other and the flanges (8) provide for securing the outside bobbin so that wires remain on the bobbin. Instead, it is rib (7) that maintains separation between bobbins.

Murai does not disclose two windings (4) sandwiching the frame of a winding (2) in order to make the frames of the windings (2) and (4) located in the same magnetic path. There is no sandwiching because the secondary bobbin passes all the way through the primary bobbin, and the flanges (8) do not separate the two bobbins. The flange parts (9) are not between the frame of winding (4) and the frame of winding (2). Instead, flange parts (9) merely provide the ends of the secondary bobbin (4) which passes all the way through from one end to the other and through the center of the primary bobbin (2). For this reason, there is no sandwiching at all.

The examiner's conclusion that it would have been obvious to one of ordinary skill in the art to use a bobbin that has two

coil frames sandwiching another coil in the structure of MacGeorge is not supported by Murai which does not teach sandwiching or the frames necessary for such sandwiching. Still further, MacGeorge, as pointed out above, is for a differential transformer while Murai is for a high voltage spark lamp.

Differential Transformer

The differential transformer art is completely different from the high-voltage transformer art. A differential transformer is referenced in MacGeorge with respect to US Patents 2,451,757 and 2,427,866. Copies of each of these two patents are attached for the examiner's consideration. The differential transformer provides for changes by moving the core in and out of the coils. The differential transformer is a device which relates to recording systems, such as stress strain recorders ('757, column 1 lines 24 - 50). The differential transformer as described in the '757 patent and the '866 parent, also of MacGeorge, shows that this is not a transformer which is in any way related to a high-voltage transformer. Instead, MacGeorge is a device which moves a core in and out of coils.

Schmidt '824

Schmidt '824 is a solenoid, not a transformer (see column 3, line 28 - 35).

In the Schmidt device, there are coils on each of the bobbins, but not primaries and secondary around a common core. The way a solenoid works is that the center core is drawn to the center of an energized coil when energized. The '824 device, therefore, has two coils (13) and (15) and the core moves back and forth. The coil (15), as shown in Figure 5, has leads which pass through slots (56). The flanges (21) contain slots (56) which are for routing coil wires to the exterior. The routing of the coil wires is not for connecting two coils as in applicant's device.

Common Feature

A common feature of Schmidt '824, MacGeorge '827 and Murai '113 is that each reference only has two coils. On the other hand, applicant's invention, as shown in Figure 2, has primary and secondary coils (6) and (7) and the separate adjusting winding (8). In another embodiment, applicant shows primary windings (26) and (27) with adjusting winding (28) as shown in Figures 5 and 6.

Claim 1

Claim 1 recites that there is a primary winding and a secondary winding provided on both sides of a frame of a magnetic adjusting coupling winding. This relates to applicant's Figures

5 and 6, not applicant's Figure 1 where both the primary and secondary side windings are on the same side of the adjusting winding. There is nothing in the prior art which shows primaries and secondaries on both sides of a magnetic coupling adjusting winding. As pointed out above, the primary winding of Murai surrounds the secondary winding of Murai. There is no magnetic coupling adjusting winding in Murai. There is no sandwiching in Murai.

In applicant's claim 1 (first paragraph thereof) three windings are recited, namely the primary side, the secondary side and magnetic coupling adjusting winding. None of the three references show three windings, much less those claimed.

Claim 1 then recites a first flange part provided between the frame of the primary side windings and the frame of the magnetic coupling adjusted winding and a second flange part provided between the frame of the secondary side winding and frame of the magnetic coupling adjusting winding. Murai does not teach such flanges. The separation in Murai between the primary and secondary is provided by ribs (7), not flanges.

Claim 1 then recites that a part of one side of the primary winding and the secondary winding is wound around the frame of the magnetic coupling adjusting winding through a notch. This provides for the magnetic coupling adjusting winding to be a winding which is one of the primary side and secondary windings. On the other hand, Schmidt does not provide communication between

slot (56) or a winding wire which connects two windings, such as a primary and a magnetic coupling adjusting winding. Instead, in Schmidt a wire merely passes through slot (56) and to the outside. There are no two windings associated with the conduction path through (56). Therefore, Schmidt does not suggest the slot as claimed.

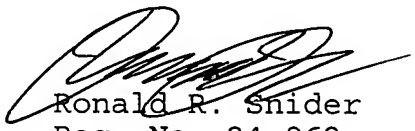
Claim 1, wile differing substantially from each of the references, also differs substantially from the references when considered together. Claim 1 must be read as a whole, as required by 35 USC § 103. The examiner, while selecting elements from claim 1 failed to show how claim 1 when read as a whole has any relevance to the references.

Attached is a Declaration signed by Mr. Tadayuki Fushimi who is an officer of the Inverter Business Division of Sumida Electric Co., Ltd. Mr. Fushimi has reviewed the cited references and states that '587, '824 and '113 all have only two windings and none of these references includes a magnetic-coupling adjusting winding.

In view of the foregoing, it is respectfully submitted that the application is now in condition for allowance, and early action in accordance thereof is requested. In the event there is any reason why the application cannot be allowed in this current condition, it is respectfully requested that the Examiner contact

the undersigned at the number listed below to resolve any problems by Interview or Examiner's Amendment.

Respectfully submitted,



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